XX134-60-01

SURVEYOR VFT

Quick Guide for SurveyorVFT Camera Domes

Warning: To reduce a risk of fire or electric shock, do not expose the indoor unit to rain or moisture.

Vicon Industries Inc. does not warrant that the functions contained in this equipment will meet your requirements or that the operation will be entirely error free or perform precisely as described in the documentation. This system has not been designed to be used in life-critical situations and must not be used for this purpose.

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INSTALLATION & OPERATION MANUAL

VICON

Vicon part number 8009-8134-60-01 Section 3 Rev 108

VICON

Dear Valued Customer:

Thank you for selecting Vicon systems and products for your video needs.

Since Vicon's beginning in 1967, our only business has been the design, engineering, and production of the highest quality video systems and equipment for use in a wide variety of security, safety, control, surveillance, and communication applications.

We stand behind the quality and dependability of every product with an industry leading Beneficial Use warranty.

If you are not satisfied with a Vicon product or service, I would like to know. Your complete satisfaction is the mission of every Vicon employee.

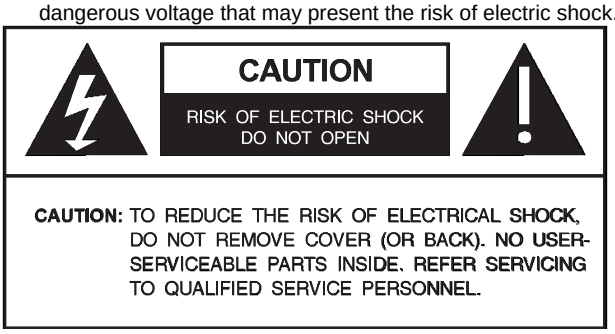
Sincerely,

Kenneth M. Darby
President

Important Safeguards

GRAPHIC SYMBOL EXPLANATION

The lightening bolt symbol alerts the user to the presence of dangerous voltage that may present the risk of electric shock.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point symbol alerts the user to the presence of important operating and maintenance instructions.

1. Read Instructions - Read all safety and operating instructions before the product is operated.

2. Retain Instructions - Retain all safety and operating instructions for future reference.

3. Heed Warnings - Pay attention to all product warnings.

4. Follow Instructions - Follow all operating instructions.

5. Cleaning -(Do not use caustic, abrasive or aerosol cleaners)

a) For units that CAN BE DISCONNECTED from the power source, use a damp cloth for cleaning.
b) For units that CANNOT BE DISCONNECTED from the power source, use a damp cloth for cleaning and do not allow moisture or liquids to enter vents.

6. Attachments - Use only UL Listed, Vicon recommended attachments to prevent unit damage and personal injury.

7. Water and Moisture - Use only products designed for outdoor environments where they will be exposed to water or moisture.

8. Accessories - Do not place the unit on an unstable surface to avoid falling. Use only UL Listed Vicon recommended mounting accessories.

9. Ventilation - Do not block ventilating slots and openings as they ensure reliable operation. Do not place the unit near a heat source or into an enclosure unless recommended by Vicon.

10. Power Sources - The product should only be operated from the recommended power source. Use only UL Class 2 indoor/dry or Class 3 outdoor/wet power supply.

11. Grounding - Only products equipped with a 3-prong grounded plug should be inserted into a grounded power outlet. Contact an electrician to replace an obsolete outlet. Do not force a plug into a non-grounded outlet.

12. Power Cord Protection - Power supply cords should not be routed in trafficked areas or in tight spaces where they will be pinched or used to bear weight. Allow some slack in the cord where it enters the unit.

13. Outdoor Cable Grounding - Use only grounded outdoor cables to protect against voltage surges and static charges. Section 810 of the National Electrical Code, ANSI/NFPA 70-1984, provides information on proper grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors and the requirements of grounding electrodes.

14. Lightning - Disconnect the product from its power source and cable system when possible to prevent damage due to lightning and power-line surges.

15. Power Lines - Do not locate outside cables over power or utility lines where they can fall and make direct contact. Contact with power lines can be fatal.

16. Overloading - Do not overload wall outlets and extension cords to prevent risk of fire and electric shock.

17. Object and Liquid Entry - Never probe through, or spill liquid into, enclosure openings to prevent risk of fire or electric shock.

18. Servicing - Refer all servicing to qualified service personnel.

19. Damage Requiring Service - Obtain service when:

a) The power-supply cord or plug is damaged.
b) Objects have fallen or liquid has been spilled into the product.
c) The product is not designed for outdoor use and has been exposed to water or moisture.
d) The product does not operate per the operating instructions. Perform Vicon recommended adjustments, modifications and troubleshooting only to avoid unit damage and personal injury.
e) The product has been dropped.
f) The product shows a significant change in performance.

20. Replacement Parts - Use only Vicon specified replacement parts or an approved equivalent to prevent unit damage and injury.

21. Safety Check - Request safety checks to be performed following repair or maintenance to verify proper operation.

22. ESD Precaution - Take all normal electrostatic discharge precautions to avoid component damage during installation and operation.

23. For 230 VAC Devices Only - When the disconnect device is not incorporated in the equipment or when the plug on the power supply is intended to serve as the disconnect device, follow the guidelines below:

a) For permanently connected 230 VAC units, a readily accessible disconnect device must be incorporated into the site wiring.
b) For 230 VAC units with a plug, the outlet must be installed near the unit and be easily accessible.

Introduction

This Quick Guide provides an overview for installing the standard SurveyorVFT PTZ Camera Dome, the SVFT-M Impact-Resistant model, the SVFT-PRS Pressurized version and the SurveyorVFT Fixed models (coaxial, UTP, fiber and ViconNet versions). An abbreviated programming guide is also provided for the camera domes, excluding the fixed versions. For ViconNet (IP) setup and programming, refer to the VN Setup section in the complete manual for the specific SurveyorVFT Camera Dome type.

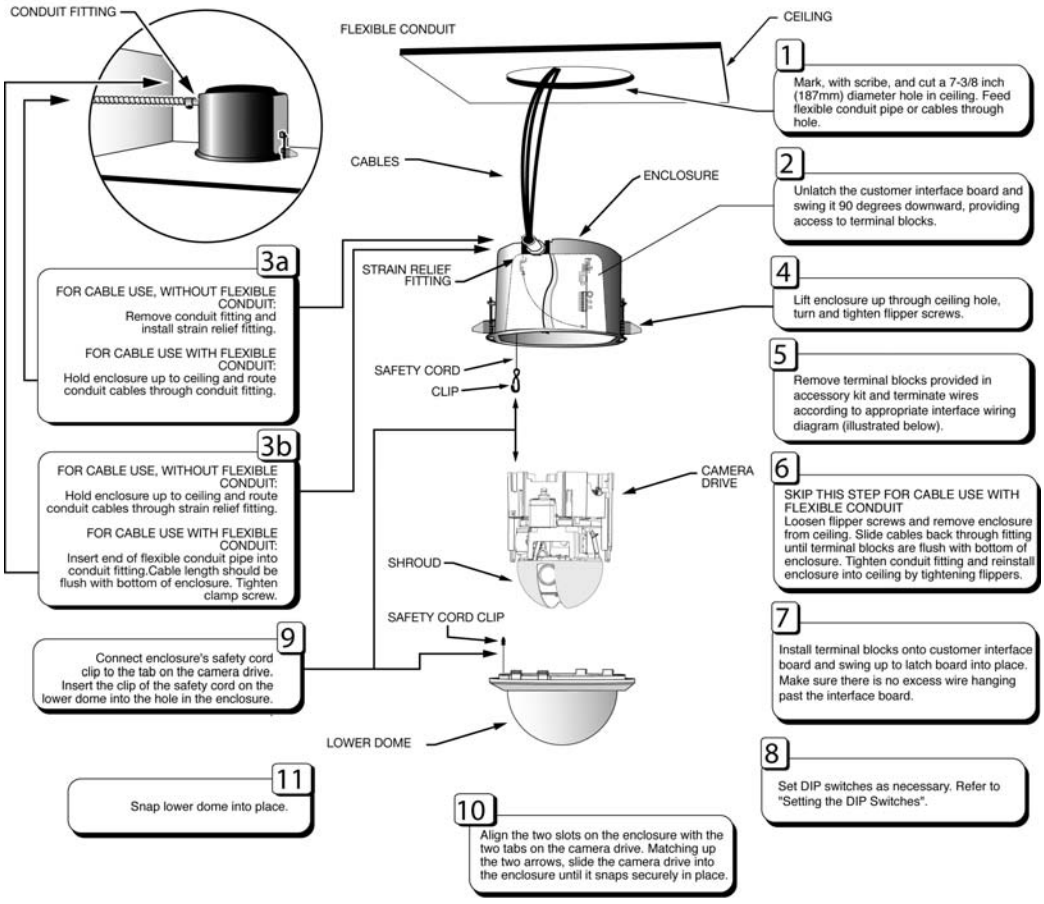
Quick Installation procedures are provided by specific models: standard SurveyorVFT In-Ceiling, Indoor Pendant and Outdoor Pendant; the SVFT-M; the SVFT-PRS; and the SurveyorVFT Fixed In-Ceiling, Indoor Pendant and Outdoor Pendant. Be sure to refer to the correct diagram for your particular model and installation.

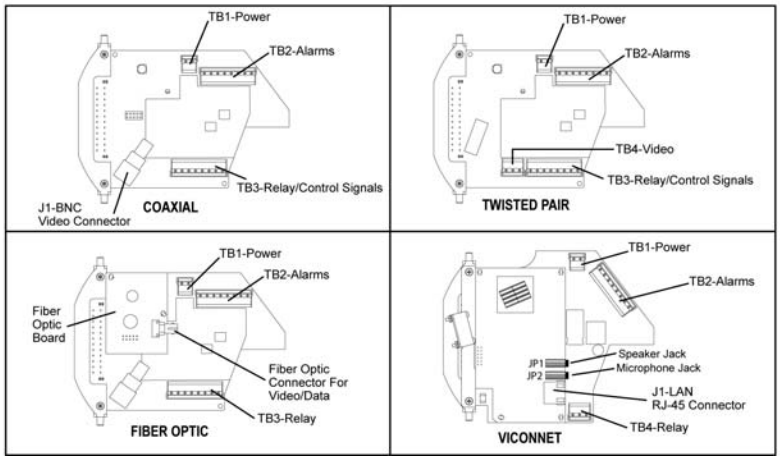
SurveyorVFT Model Families

Model Family	Description	Page
Standard PTZ SurveyorVFT In-Ceiling	SVFT-C series; includes 22EX (color ExView), 23X (day/night) and 22X (color) models available with coaxial, UTP, fiber or ViconNet video transmission	2
Standard PTZ SurveyorVFT Indoor Pendant	SVFT-P series; includes 22EX (color ExView), 23X (day/night) and 22X (color) models available with coaxial, UTP, fiber or ViconNet video transmission	3
Standard PTZ SurveyorVFT Outdoor Pendant	SVFT-W series; includes 22EX (color ExView), 23X and 35X (day/night), 22X (color) models available with coaxial, UTP, fiber or ViconNet video transmission	4
SVFT-M Impact-Resistant	SVFT-M series; includes 22X (color), 22EX (color ExView), 23X and 35X (day/night) pendant models available with coaxial, UTP, fiber or ViconNet video transmission	5
SVFT-PRS Pressurized	SVFT-PRS series; includes 22EX (color ExView), 23X and 35X (day/night) pendant models available with coaxial, UTP, fiber or ViconNet video transmission	6
SVFT-C3312 Fixed	SVFT Fixed series; in-ceiling (C) with 3.3-12 mm autoiris varifocal lens and high-resolution ExView color camera available with coaxial, UTP, fiber or ViconNet video transmission	7-8
SVFT-P3312 Fixed	SVFT Fixed series; indoor pendant (P) with 3.3-12 mm autoiris varifocal lens and high-resolution ExView color camera available with coaxial, UTP, fiber or ViconNet video transmission	9
SVFT-W3312/ SVFT-W3312DN Fixed	SVFT Fixed series; outdoor pendant (W/WDN) with 3.3-12 mm autoiris varifocal lens and high-resolution ExView color/day/night camera available with coaxial, UTP, fiber or ViconNet video transmission	10
SVFT-W550A/ SVFT-W550DN Fixed	SVFT Fixed series; outdoor pendant (W/WDN) with 5-50 mm autoiris varifocal lens and high-resolution ExView color/day/night camera available with coaxial, UTP, fiber or ViconNet video transmission	10

Quick Installation – Standard PTZ In-Ceiling Model

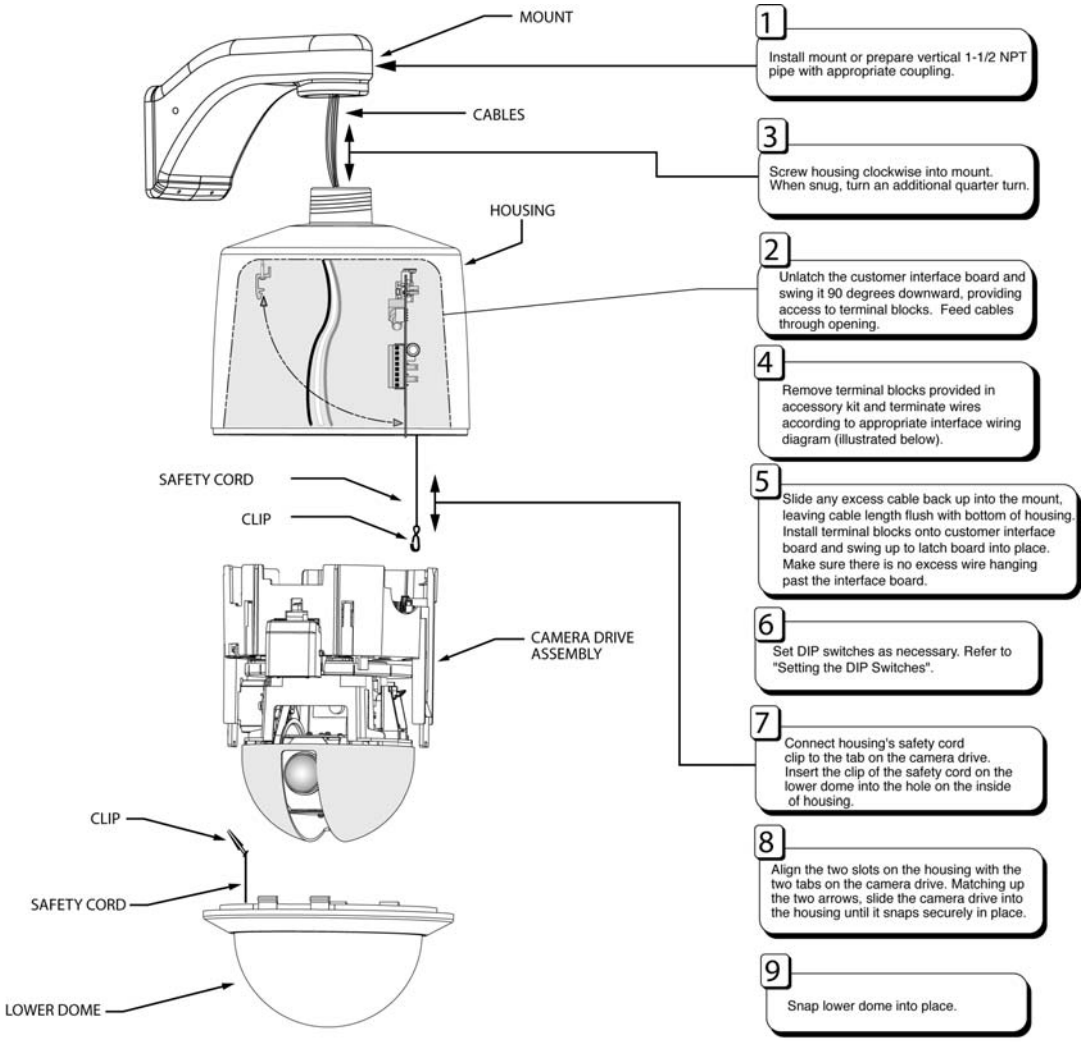
QUICK INSTALLATION

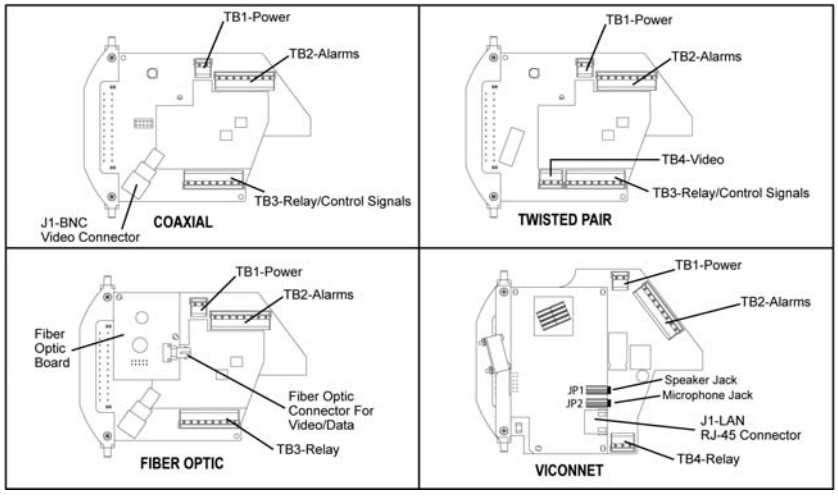

CONDUIT FITTING
FLEXIBLE CONDUIT
CEILING
CABLES
ENCLOSURE
STRAIN RELIEF FITTING
SAFETY CORD
CLIP
CAMERA DRIVE
SHROUD
SAFETY CORD CLIP
LOWER DOME
1
Mark, with scribe, and cut a 7-3/8 inch (187mm) diameter hole in ceiling. Feed flexible conduit pipe or cables through hole.
2
Unlatch the customer interface board and swing it 90 degrees downward, providing access to terminal blocks.
3a
FOR CABLE USE, WITHOUT FLEXIBLE CONDUIT:
Remove conduit fitting and install strain relief fitting.
FOR CABLE USE WITH FLEXIBLE CONDUIT:
Hold enclosure up to ceiling and route conduit cables through conduit fitting.
3b
FOR CABLE USE, WITHOUT FLEXIBLE CONDUIT:
Hold enclosure up to ceiling and route conduit cables through strain relief fitting.
FOR CABLE USE WITH FLEXIBLE CONDUIT:
Insert end of flexible conduit pipe into conduit fitting.Cable length should be flush with bottom of enclosure. Tighten clamp screw.
4
Lift enclosure up through ceiling hole, turn and tighten flipper screws.
5
Remove terminal blocks provided in accessory kit and terminate wires according to appropriate interface wiring diagram (illustrated below).
6
SKIP THIS STEP FOR CABLE USE WITH FLEXIBLE CONDUIT
Loosen flipper screws and remove enclosure from ceiling. Slide cables back through fitting until terminal blocks are flush with bottom of enclosure. Tighten conduit fitting and reinstall enclosure into ceiling by tightening flippers.
7
Install terminal blocks onto customer interface board and swing up to latch board into place. Make sure there is no excess wire hanging past the interface board.
8
Set DIP switches as necessary. Refer to "Setting the DIP Switches".
9
Connect enclosure's safety cord clip to the tab on the camera drive. Insert the clip of the safety cord on the lower dome into the hole in the enclosure.
10
Align the two slots on the enclosure with the two tabs on the camera drive. Matching up the two arrows, slide the camera drive into the enclosure until it snaps securely in place.
11
Snap lower dome into place.



QUICK INSTALLATION

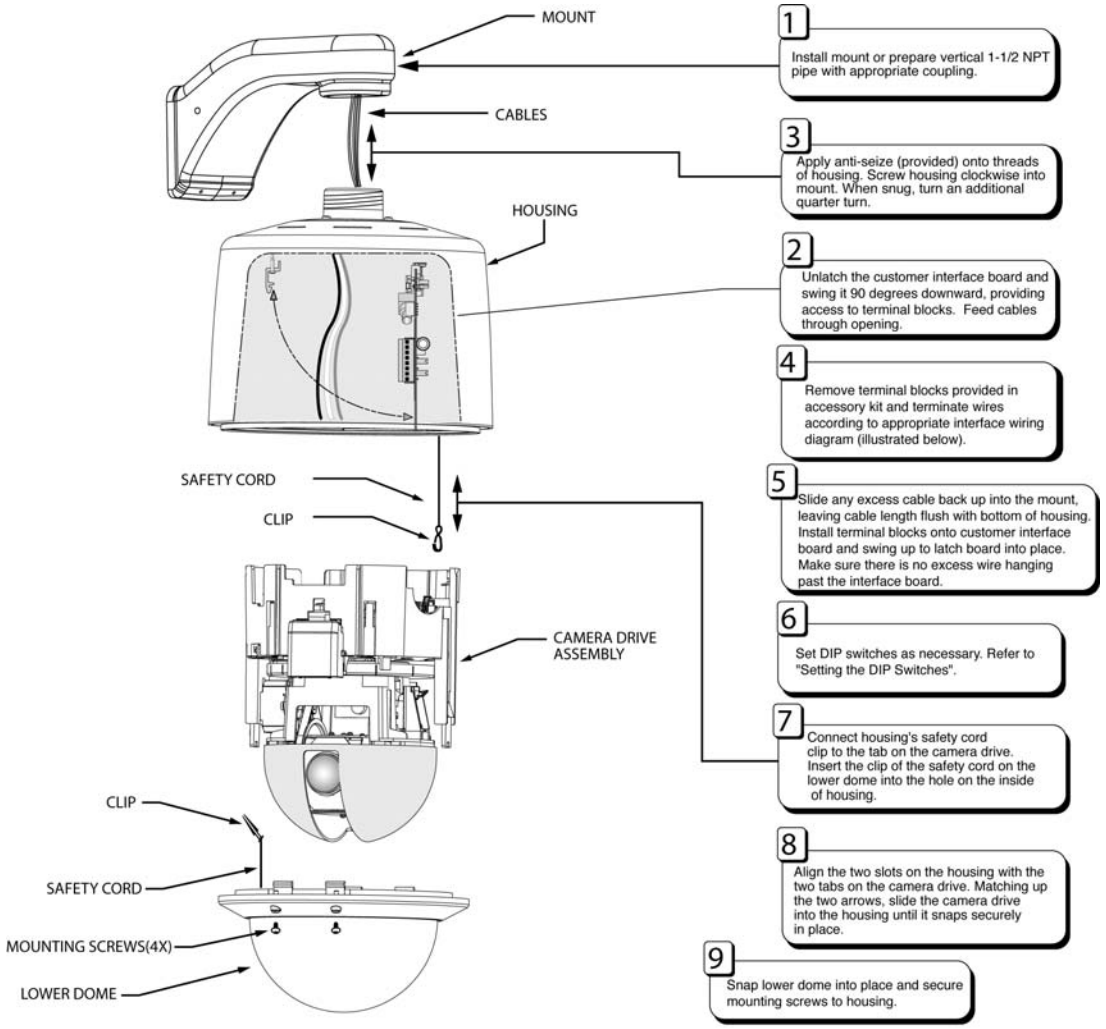
Quick Installation – Standard PTZ Indoor Pendant

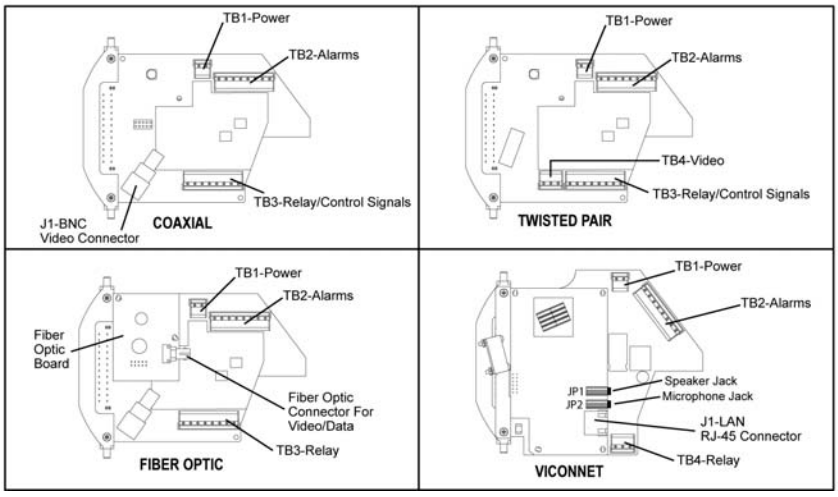

MOUNT
CABLES
HOUSING
SAFETY CORD
CLIP
CAMERA DRIVE ASSEMBLY
CLIP
SAFETY CORD
LOWER DOME
1
Install mount or prepare vertical 1-1/2 NPT pipe with appropriate coupling.
3
Screw housing clockwise into mount. When snug, turn an additional quarter turn.
2
Unlatch the customer interface board and swing it 90 degrees downward, providing access to terminal blocks. Feed cables through opening.
4
Remove terminal blocks provided in accessory kit and terminate wires according to appropriate interface wiring diagram (illustrated below).
5
Slide any excess cable back up into the mount, leaving cable length flush with bottom of housing. Install terminal blocks onto customer interface board and swing up to latch board into place. Make sure there is no excess wire hanging past the interface board.
6
Set DIP switches as necessary. Refer to "Setting the DIP Switches".
7
Connect housing's safety cord clip to the tab on the camera drive. Insert the clip of the safety cord on the lower dome into the hole on the inside of housing.
8
Align the two slots on the housing with the two tabs on the camera drive. Matching up the two arrows, slide the camera drive into the housing until it snaps securely in place.
9
Snap lower dome into place.



QUICK INSTALLATION

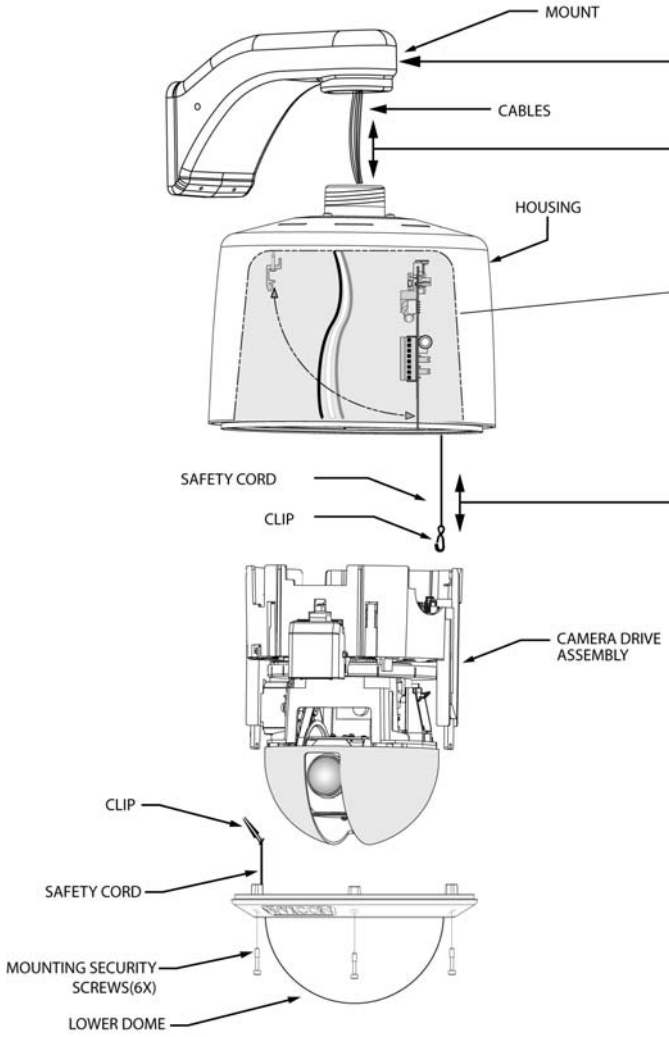
Quick Installation – Standard PTZ Outdoor Pendant


MOUNT
CABLES
HOUSING
SAFETY CORD
CLIP
CAMERA DRIVE ASSEMBLY
CLIP
SAFETY CORD
MOUNTING SCREWS(4X)
LOWER DOME
1
Install mount or prepare vertical 1-1/2 NPT pipe with appropriate coupling.
3
Apply anti-seize (provided) onto threads of housing. Screw housing clockwise into mount. When snug, turn an additional quarter turn.
2
Unlatch the customer interface board and swing it 90 degrees downward, providing access to terminal blocks. Feed cables through opening.
4
Remove terminal blocks provided in accessory kit and terminate wires according to appropriate interface wiring diagram (illustrated below).
5
Slide any excess cable back up into the mount, leaving cable length flush with bottom of housing. Install terminal blocks onto customer interface board and swing up to latch board into place. Make sure there is no excess wire hanging past the interface board.
6
Set DIP switches as necessary. Refer to "Setting the DIP Switches".
7
Connect housing's safety cord clip to the tab on the camera drive. Insert the clip of the safety cord on the lower dome into the hole on the inside of housing.
8
Align the two slots on the housing with the two tabs on the camera drive. Matching up the two arrows, slide the camera drive into the housing until it snaps securely in place.
9
Snap lower dome into place and secure mounting screws to housing.

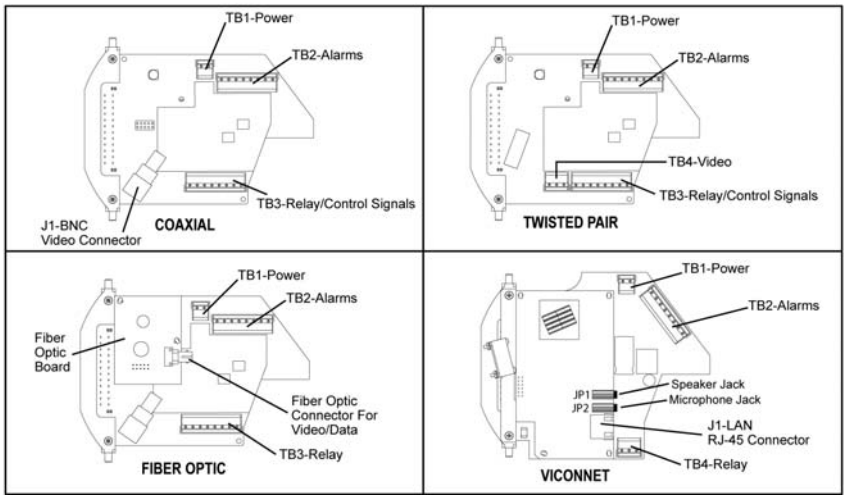


QUICK INSTALLATION

Quick Installation – SVFT-M Impact-Resistant



1. Install mount or prepare vertical 1-1/2 NPT pipe with appropriate coupling.
2. Unlatch the customer interface board and swing it 90 degrees downward, providing access to terminal blocks. Feed cables through opening.
3. Apply anti-seize (provided) onto threads of housing. Screw housing clockwise into mount. When snug, turn an additional quarter turn.
4. Remove terminal blocks provided in accessory kit and terminate wires according to appropriate interface wiring diagram (illustrated below).
5. Slide any excess cable back up into the mount, leaving cable length flush with bottom of housing. Install terminal blocks onto customer interface board and swing up to latch board into place. Make sure there is no excess wire hanging past the interface board.
6. Set DIP switches as necessary. Refer to "Setting the DIP Switches".
7. Connect housing's safety cord clip to the tab on the camera drive. Insert the clip of the safety cord on the lower dome into the hole on the inside of housing.
8. Align the two slots on the housing with the two tabs on the camera drive. Matching up the two arrows, slide the camera drive into the housing until it snaps securely in place.
9. Lift lower dome up to housing. Align the holes and secure mounting screws to housing.



QUICK INSTALLATION

Quick Installation – SVFT-PRS Pressurized

QUICK INSTALLATION

QUICK INSTALLATION

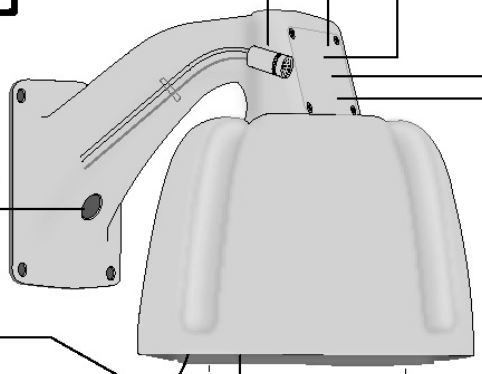
3 Remove the service cover from the mount by removing the four (4) screws. Route the 23-pin cable assembly through the mount, leaving the connector and 2 inches of extra cable at the service opening.

11 Pressurize the housing with Dry Nitrogen gas until the relief valve hisses. Reinstall cap on fill valve. Reinstall service cover.

2 Fabricate the 23-pin connector (provided) or locate the optional 23-pin cable assembly.

5 Locate the 23-pin connector in the service opening and insert it into the mating connector on the housing and turn it 1/4 to lock. Connect cable wiring to site wiring using wire nuts.

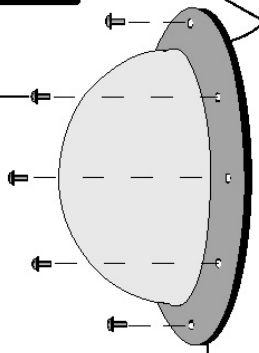
1 Install mount in suitable location. (Install liquid-tight fitting in access hole if using external cabling.) Verify site wiring is present.

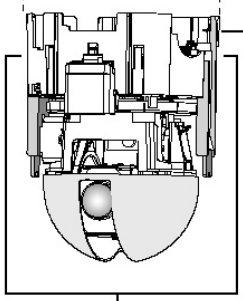


6 At service opening, remove cap from fill valve. Press the fill valves pin to release any residual gas in the housing.

7 Loosen the 8 captive screws from the lower dome assembly. Allow to hang by safety cord.

4 Wipe top gasket area of housing clean. Lift housing to mount and align mounting holes so fill valve is closest to service opening. Install provided housing mounting screws.

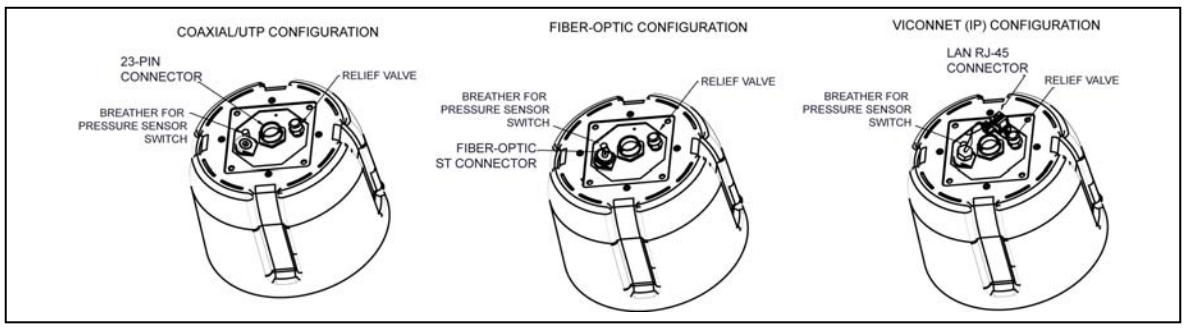




8 Remove the camera drive from its packing. Locate and set the DIP switches. Refer to "Setting the DIP switches" manual section.

9 Connect housing's safety clip to the tab on the camera drive. Align the two slots on the housing with the two tabs on the camera drive. Matching up the two arrows, slide the camera drive into the housing until two (2) clicks are heard, securing it in place.

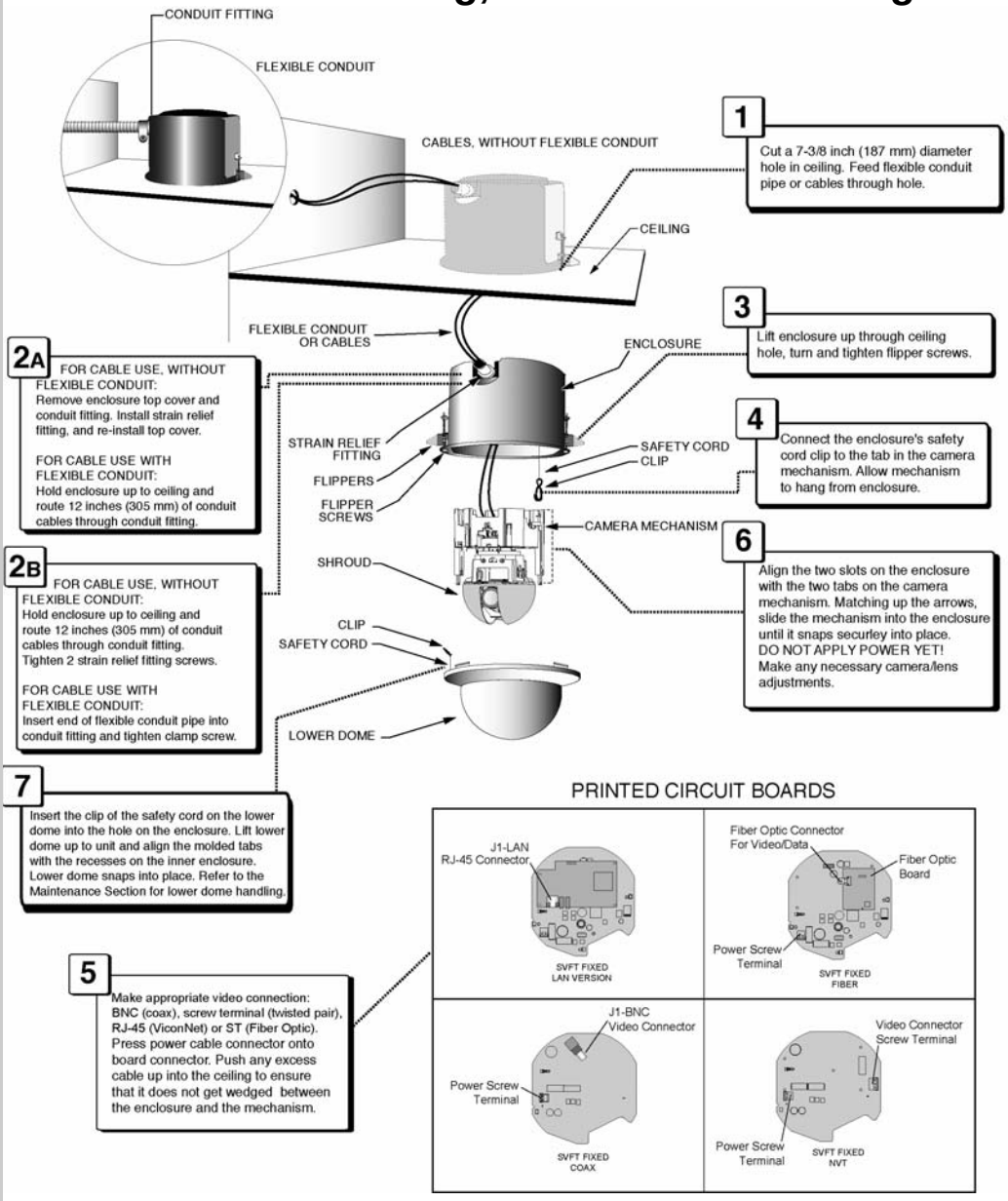
10 Lift the lower dome up to the housing and press it against the flange. Align the holes and reinstall the eight (8) screws.



Quick Installation – Fixed

In Ceiling, No Access to Ceiling

QUICK INSTALLATION



1 Cut a 7-3/8 inch (187 mm) diameter hole in ceiling. Feed flexible conduit pipe or cables through hole.

2A FOR CABLE USE, WITHOUT FLEXIBLE CONDUIT:
Remove enclosure top cover and conduit fitting. Install strain relief fitting, and re-install top cover.

FOR CABLE USE WITH FLEXIBLE CONDUIT:
Hold enclosure up to ceiling and route 12 inches (305 mm) of conduit cables through conduit fitting.

2B FOR CABLE USE, WITHOUT FLEXIBLE CONDUIT:
Hold enclosure up to ceiling and route 12 inches (305 mm) of conduit cables through conduit fitting.
Tighten 2 strain relief fitting screws.

FOR CABLE USE WITH FLEXIBLE CONDUIT:
Insert end of flexible conduit pipe into conduit fitting and tighten clamp screw.

3 Lift enclosure up through ceiling hole, turn and tighten flipper screws.

4 Connect the enclosure's safety cord clip to the tab in the camera mechanism. Allow mechanism to hang from enclosure.

6 Align the two slots on the enclosure with the two tabs on the camera mechanism. Matching up the arrows, slide the mechanism into the enclosure until it snaps securley into place.
DO NOT APPLY POWER YET!
Make any necessary camera/lens adjustments.

7 Insert the clip of the safety cord on the lower dome into the hole on the enclosure. Lift lower dome up to unit and align the molded tabs with the recesses on the inner enclosure. Lower dome snaps into place. Refer to the Maintenance Section for lower dome handling.

5 Make appropriate video connection: BNC (coax), screw terminal (twisted pair), RJ-45 (ViconNet) or ST (Fiber Optic). Press power cable connector onto board connector. Push any excess cable up into the ceiling to ensure that it does not get wedged between the enclosure and the mechanism.

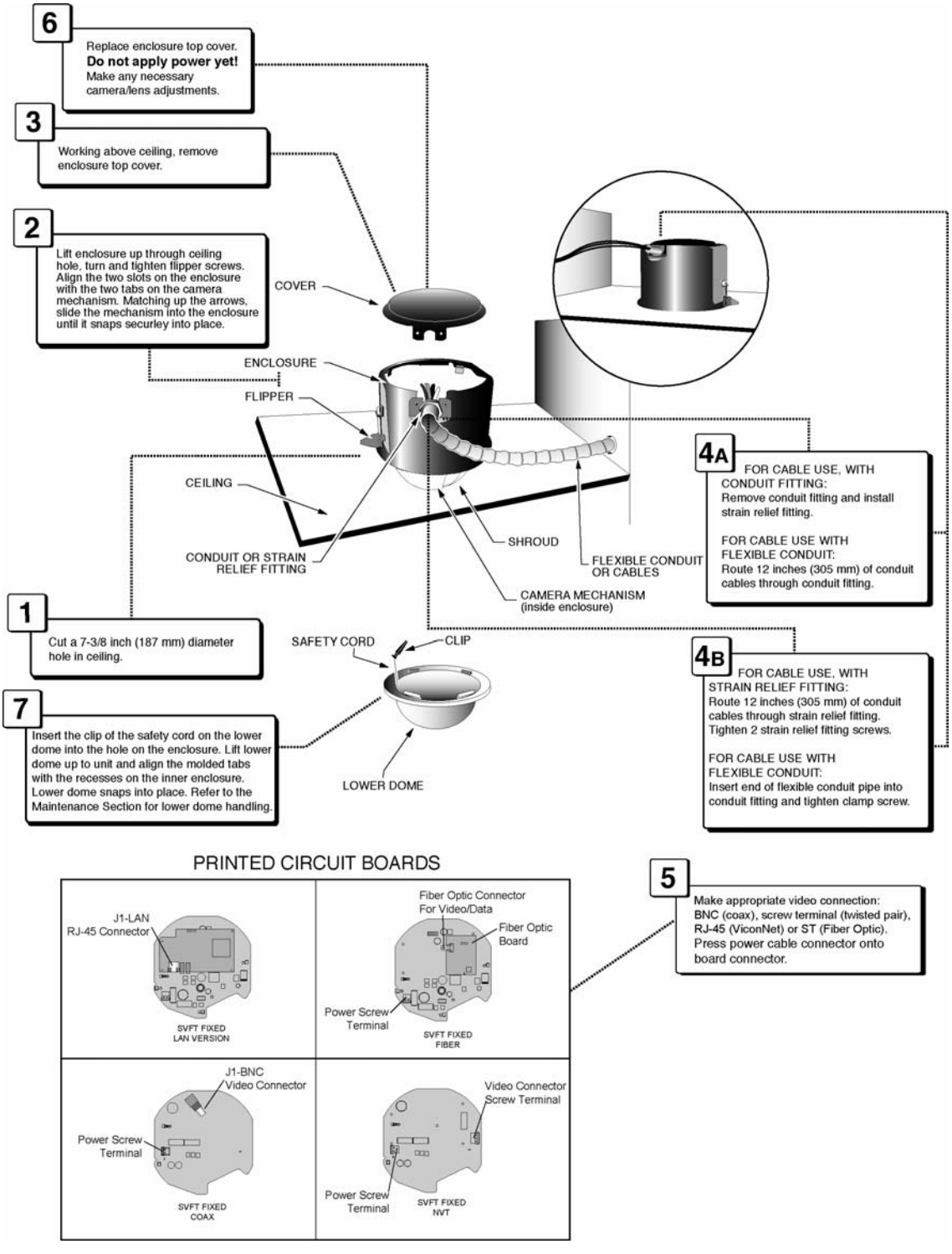
PRINTED CIRCUIT BOARDS

QUICK INSTALLATION

Quick Installation – Fixed

In-Ceiling – Access to Ceiling

QUICK INSTALLATION

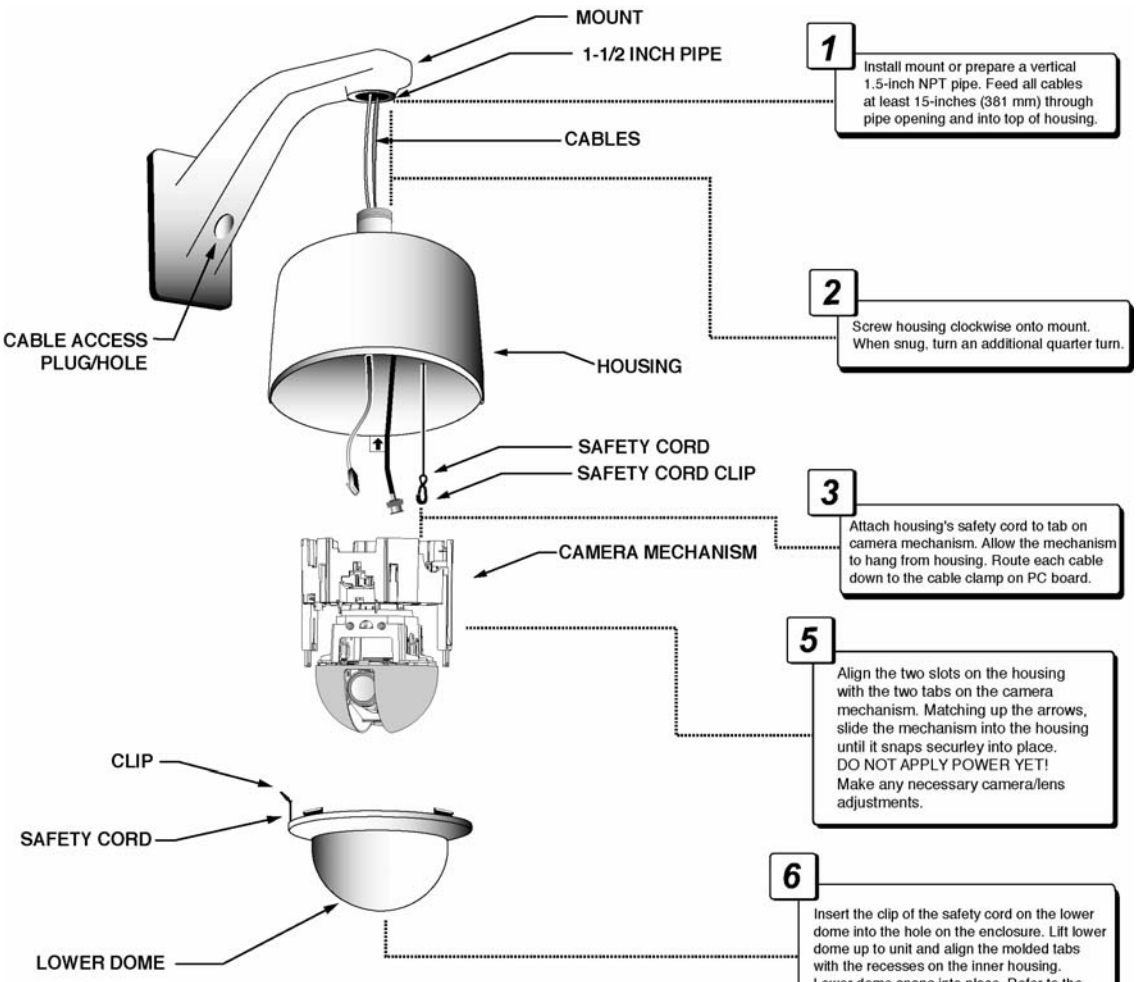

6
Replace enclosure top cover.
Do not apply power yet!
Make any necessary camera/lens adjustments.
3
Working above ceiling, remove enclosure top cover.
2
Lift enclosure up through ceiling hole, turn and tighten flipper screws. Align the two slots on the enclosure with the two tabs on the camera mechanism. Matching up the arrows, slide the mechanism into the enclosure until it snaps securley into place.
COVER
ENCLOSURE
FLIPPER
CEILING
CONDUIT OR STRAIN RELIEF FITTING
SHROUD
FLEXIBLE CONDUIT OR CABLES
CAMERA MECHANISM (inside enclosure)
4A
FOR CABLE USE, WITH CONDUIT FITTING:
Remove conduit fitting and install strain relief fitting.
FOR CABLE USE WITH FLEXIBLE CONDUIT:
Route 12 inches (305 mm) of conduit cables through conduit fitting.
1
Cut a 7-3/8 inch (187 mm) diameter hole in ceiling.
SAFETY CORD
CLIP
LOWER DOME
4B
FOR CABLE USE, WITH STRAIN RELIEF FITTING:
Route 12 inches (305 mm) of conduit cables through strain relief fitting. Tighten 2 strain relief fitting screws.
FOR CABLE USE WITH FLEXIBLE CONDUIT:
Insert end of flexible conduit pipe into conduit fitting and tighten clamp screw.
7
Insert the clip of the safety cord on the lower dome into the hole on the enclosure. Lift lower dome up to unit and align the molded tabs with the recesses on the inner enclosure. Lower dome snaps into place. Refer to the Maintenance Section for lower dome handling.
PRINTED CIRCUIT BOARDS
J1-LAN RJ-45 Connector
SVFT FIXED LAN VERSION
Fiber Optic Connector For Video/Data
Fiber Optic Board
Power Screw Terminal
SVFT FIXED FIBER
J1-BNC Video Connector
Power Screw Terminal
SVFT FIXED COAX
Video Connector Screw Terminal
Power Screw Terminal
SVFT FIXED NVT
5
Make appropriate video connection: BNC (coax), screw terminal (twisted pair), RJ-45 (ViconNet) or ST (Fiber Optic). Press power cable connector onto board connector.

QUICK INSTALLATION

Quick Installation – Fixed

Indoor Pendant

QUICK INSTALLATION



1 Install mount or prepare a vertical 1.5-inch NPT pipe. Feed all cables at least 15-inches (381 mm) through pipe opening and into top of housing.

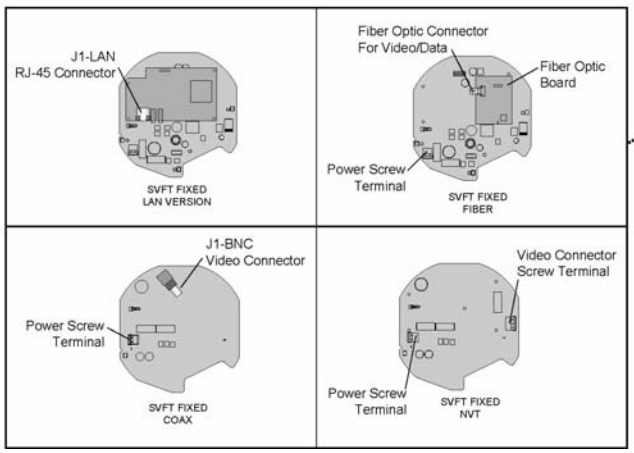
2 Screw housing clockwise onto mount. When snug, turn an additional quarter turn.

3 Attach housing's safety cord to tab on camera mechanism. Allow the mechanism to hang from housing. Route each cable down to the cable clamp on PC board.

5 Align the two slots on the housing with the two tabs on the camera mechanism. Matching up the arrows, slide the mechanism into the housing until it snaps securley into place. DO NOT APPLY POWER YET! Make any necessary camera/lens adjustments.

6 Insert the clip of the safety cord on the lower dome into the hole on the enclosure. Lift lower dome up to unit and align the molded tabs with the recesses on the inner housing. Lower dome snaps into place. Refer to the Maintenance Section for lower dome handling.

PRINTED CIRCUIT BOARDS

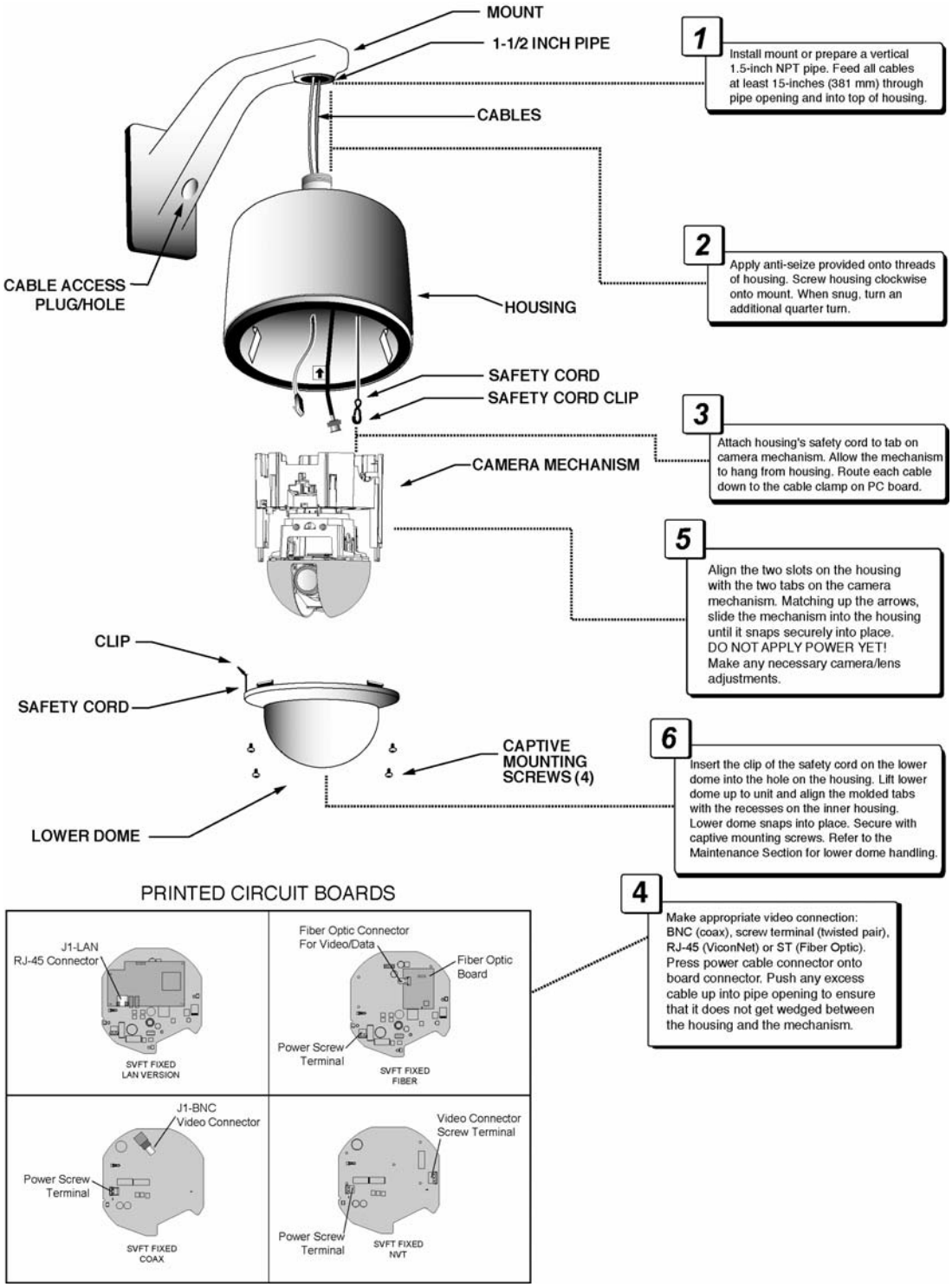


4 Make appropriate video connection: BNC (coax), screw terminal (twisted pair), RJ-45 (ViconNet) or ST (Fiber Optic). Push any excess cable up into pipe opening to ensure that it does not get wedged between the housing and the mechanism.

QUICK INSTALLATION

Quick Installation – Fixed

Outdoor Pendant



1 Install mount or prepare a vertical 1.5-inch NPT pipe. Feed all cables at least 15-inches (381 mm) through pipe opening and into top of housing.

2 Apply anti-seize provided onto threads of housing. Screw housing clockwise onto mount. When snug, turn an additional quarter turn.

3 Attach housing's safety cord to tab on camera mechanism. Allow the mechanism to hang from housing. Route each cable down to the cable clamp on PC board.

5 Align the two slots on the housing with the two tabs on the camera mechanism. Matching up the arrows, slide the mechanism into the housing until it snaps securely into place. DO NOT APPLY POWER YET! Make any necessary camera/lens adjustments.

6 Insert the clip of the safety cord on the lower dome into the hole on the housing. Lift lower dome up to unit and align the molded tabs with the recesses on the inner housing. Lower dome snaps into place. Secure with captive mounting screws. Refer to the Maintenance Section for lower dome handling.

4 Make appropriate video connection: BNC (coax), screw terminal (twisted pair), RJ-45 (ViconNet) or ST (Fiber Optic). Press power cable connector onto board connector. Push any excess cable up into pipe opening to ensure that it does not get wedged between the housing and the mechanism.

QUICK INSTALLATION

Wiring and Setup

Pin Connections – Standard SurveyorVFT and SVFT-M

CONNECTOR/PIN NUMBER	CONNECTOR TYPE	CONNECTOR/PIN LABEL	SIGNAL NAME
	BNC (female)	**VIDEO (J1)**	
J1		VIDEO	Video output
	AMP Header	J2	
J2	(Fiber Optic board)*		Video/RS-422 data
	TERMINAL BLOCK	**POWER (TB1)**	
TB1-1		H	Hot
TB1-2		N	Neutral
	TERMINAL BLOCK	**ALARM (TB2)**	
TB2-1		ALARM 1	Alarm input 1
TB2-2		GND	Ground
TB2-3		ALARM 2	Alarm input 2
TB2-4		GND	Ground
TB2-5		ALARM 3	Alarm input 3
TB2-6		GND	Ground
TB2-7		ALARM 4	Alarm input 4
TB2-8		GND	Ground
	TERMINAL BLOCK	**COMM/RELAY (TB3)**	
TB3-1		COMM IN +	Command in +
TB3-2		COMM IN -	Command in -
TB3-3		RESP OUT +	Response out +
TB3-4		RESP OUT -	Response out -
TB3-5		GND	Ground
TB3-6		RELAY C	Relay, common
TB3-7		RELAY NO	Relay, normally open
TB3-8		RELAY NC	Relay, normally closed

**J2 for optional fiber optics interface board that provides video and RS-422 full duplex data through a standard fiber optics connector.*

Wiring Connections – Standard Coaxial/Fiber Optic Versions

CONNECTOR/PIN NUMBER	CONNECTOR TYPE	CONNECTOR/PIN LABEL	SIGNAL NAME
	TERMINAL BLOCK	**VIDEO NVT (TB4)**	
TB4-1		UTP +	Unshielded twisted pair +
TB4-2		UTP -	Unshielded twisted pair -
TB4-3		GND	
	TERMINAL BLOCK	**POWER (TB1)**	
TB1-1		H	Hot
TB1-2		N	Neutral
	TERMINAL BLOCK	**ALARM (TB2)**	
TB2-1		ALARM 1	Alarm input 1
TB2-2		GND	Ground
TB2-3		ALARM 2	Alarm input 2
TB2-4		GND	Ground
TB2-5		ALARM 3	Alarm input 3
TB2-6		GND	Ground
TB2-7		ALARM 4	Alarm input 4
TB2-8		GND	Ground
	TERMINAL BLOCK	**COMM/RELAY (TB3)**	
TB3-1		COMM IN +	Command in +
TB3-2		COMM IN -	Command in -
TB3-3		RESP OUT+	Response out+
TB3-4		RESP OUT -	Response out -
TB3-5		GND	Ground
TB3-6		RELAY C	Relay, common
TB3-7		RELAY NO	Relay, normally open
TB3-8		RELAY NC	Relay, normally closed

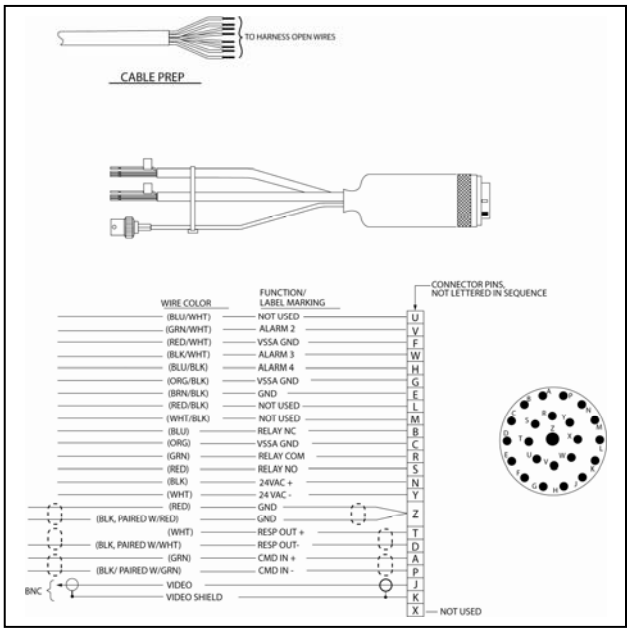
Wiring Connections – UTP Version

CONNECTOR/PIN NUMBER	CONNECTOR TYPE	CONNECTOR/PIN LABEL	SIGNAL NAME
	TERMINAL BLOCK	**POWER (TB3)**	
TB3-1		H	Hot
TB3-2		N	Neutral
	TERMINAL BLOCK	**ALARM (P1)**	
P1-1		ALARM OUT	Alarm output
P1-2		GND	Ground
P1-3		ALARM IN	Alarm input
	RJ-45	**LAN (J7)**	
J7-1		TX +	Transmit +
J7-2		TX -	Transmit -
J7-3		RX +	Receive +
J7-4		POE POWER	PoE Power
J7-5		POE POWER	PoE Power
J7-6		RX -	Receive -
J7-7		POE POWER	PoE Power
J7-8		POE POWER	PoE Power
	1/8-IN. PHONO	**AUDIO**	
J3		MIC	Audio In
J6		SPK	Audio Out - N/A

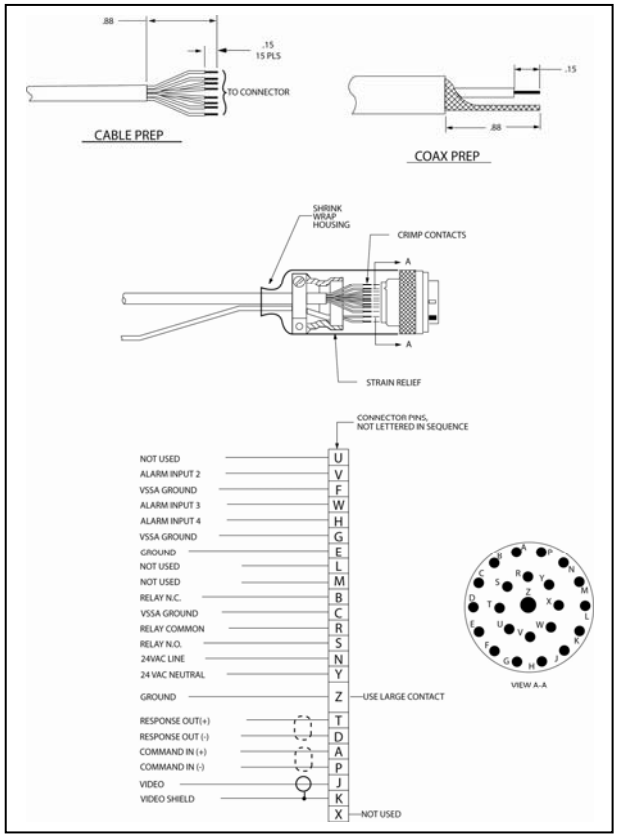
Wiring Connections – ViconNet Version

Pin Connections – SVFT-PRS

Prefabricated cable


TO HARNESS OPEN WIRES
CABLE PREP
WIRE COLOR
FUNCTION/ LABEL MARKING
CONNECTOR PINS, NOT LETTERED IN SEQUENCE
(BLU/WHT) NOT USED U
(GRN/WHT) ALARM 2 V
(RED/WHT) VSSA GND F
(BLK/WHT) ALARM 3 W
(BLU/BLK) ALARM 4 H
(ORG/BLK) VSSA GND G
(BRN/BLK) GND E
(RED/BLK) NOT USED L
(WHT/BLK) NOT USED M
(BLU) RELAY NC B
(ORG) VSSA GND C
(GRN) RELAY COM R
(RED) RELAY NO S
(BLK) 24VAC + N
(WHT) 24 VAC - Y
(RED) GND Z
(BLK, PAIRED W/RED) GND
(WHT) RESP OUT + T
(BLK, PAIRED W/WHT) RESP OUT- D
(GRN) CMD IN + A
(BLK/ PAIRED W/GRN) CMD IN - P
BNC VIDEO J
VIDEO SHIELD K
NOT USED X

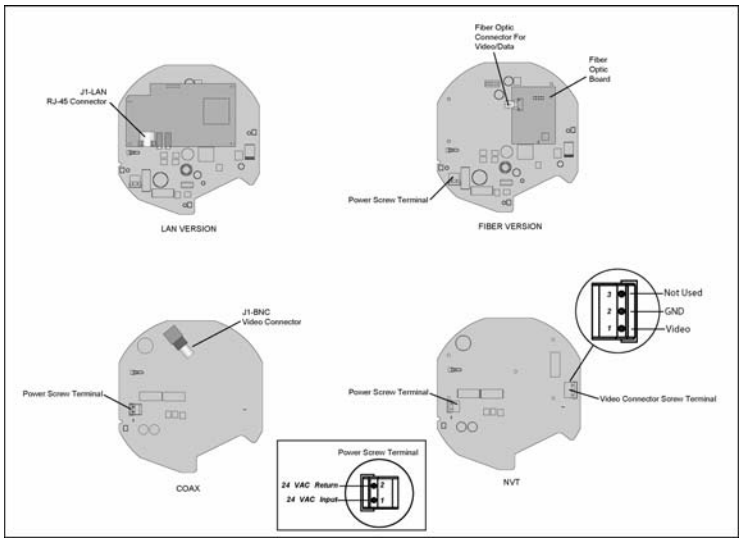
Customer prepared cable→



On coaxial and UTP units, L, M, X and U are not used.
On fiber units L, M, J, K, X and U are not used.
On ViconNet units, A, C, D, P, T, L, M, J, K. X, and U are not used.

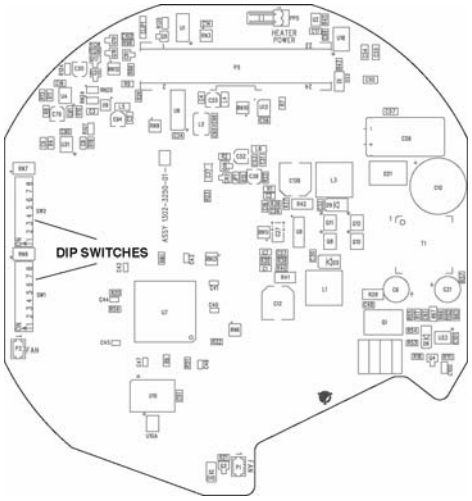
Pin Connections – SurveyorVFT Fixed

Both power and video connections are made to the integral printed circuit board (PC board) on the camera mechanism. The PC board provides a board-mounted BNC connector for coaxial, a screw terminal for twisted pair video, an ST connector for fiber-optic or an RJ-45 connector on the ViconNet board for video connection and a removable two-position screw terminal connector for camera power.



DIP Switch Settings

The address and mode are set using the two 8-position DIP Switch banks SW1 and SW2. DIP switch 1 (SW1) is used to set the address. DIP switch 2 (SW2) is used to set the mode functions and protocol. Refer to the Configuration section of the manual for details.



SW2

	ON/OFF	1	2	3	4	5	6	7	8
PAL	OFF	---	---	---	---	---	---	---	---
NTSC	ON	---	---	---	---	---	---	---	---
SERIAL	---	OFF			---	---	---	---	---
VICOAX	---	ON	---		---	---	---	---	---
DUPLEX	---	---	OFF		---	---	---	---	---
SIMPLEX	---	---	ON		---	---	---	---	---
RS422	---	---	---	OFF	---	---	---	---	---
RS485	---	---	---	ON	---	---	---	---	---
VICON VPS	---	OFF	---	---	OFF	OFF	OFF	OFF	OFF
LAN INTERFACE	---	OFF	---	---	ON	ON	ON	OFF	

PROTOCOLS: FOR PROTOCOL SWITCH SETTINGS SEE SURVEYOR SVFT PROGRAMMING MANUAL OR INSTALLATION AND OPERATION MANUAL.

SW1 (ADDRESS SETTINGS)

ON / OFF

1	2	4	8	16	32	64	128

CAMERA ADDRESS SETTINGS
0 - 255
(0 = CAMERA 256)

SAMPLE ADDRESS } 2 + 8 + 64 = 74

Programming the SurveyorVFT

Programming is done by selecting options from the on-screen menu system using the AP (autopan), AI (autoiris), joystick and AUX1/AUX2 functions. The cursor wraps around when moving up and down. The following is a description of these controls:

AP: select and store parameters; go forward through the menu system.
AI: leave or exit a menu without retaining the new setting.
Joystick Left/Right: select specific program parameters.
AUX 1, AUX 2and AUX 3: used for very specific menu functions detailed in the menu system.

Six functions are carried out using only keypad controls, setting autopan limits, programming continuous rotation, selecting the autopan speed, programming sectors, polarity of response lines, enabling auto-baud detect and setting manual pan limits.

Software Features

Most of the SurveyorVFT features are accessed remotely through either a System Console (V1400X-DVC-3), keypad (V1410X-DVC, V1411X-DVC, V1411J-DVC, V1300X-RVC rack mount or V1300X-DVC desktop) or a PC using the SurveyorVFT Configurator software package. To program certain features, a numeric preset is either stored or recalled. Preset functions can represent a variety of features.

PRESET NUMBER	FUNCTION
1 to 79	Preset positions
80 to 87	Tour sequences
88 to 89	Autotour sequences
90	Pan/Tilt lockout
93	Set response line polarity
94	Enter Dome menu system
95	Auto-Baud Detect feature
96	Program Dome sectors
97	Initiate Dome reset
98	Autopan limits
99	Set manual pan limits

The table on the left shows preset numbers and their functions, which are described in detail below. There are no commands associated with certain presets. These have been reserved for future use or advanced programming and diagnostic tools.

Preset 1-79 (Preset Positions) — When a preset number is stored, the current position of the camera is written into that preset memory location. When the number is recalled, the camera moves to the stored position. This is called solving a preset.

Presets are usually solved at the maximum speed, typically less than 1 second; if a preset is assigned to a tour or salvo, the preset recall speed is programmable. Camera focus is also stored as part of the preset; if the image is out of focus when the preset is stored, it will be out of focus when the preset is solved, even if autofocus is enabled.

When a preset is recalled, the corresponding preset title is displayed on the screen (when preset titles have been enabled). If the operator attempts to recall a preset number that has not been stored, the message “Preset Not Stored” appears on the screen for a short period and the camera position does not change. Pressing any command key or moving the joystick will also remove the message.

Preset 80-87 (Tour Sequences) — A tour is a series of up to 32 events or actions. Accessing the “Program Tour” option will bring up an on-screen menu that allows programming of each tour event. Recalling a tour initiates the sequence of events that corresponds to that tour number. A longer sequence of actions can be prepared by chaining 2 or more tours together.

Preset 88-89 (Autotour Sequences) — An Autotour is a series of up to 256 pan, tilt and zoom actions. Accessing the “Program Autotour” option will bring up an on-screen menu which allows dynamic programming of each autotour event.

Preset 90 (Pan/Tilt Lockout) — Storing preset 90 will disable joystick control of that dome, and the message Pan/Tilt Disabled will momentarily appear on the screen. Any time the joystick is moved, the message will reappear. To restore pan/tilt operation, preset 90 must be stored again.

This feature prevents the camera dome’s position from being tampered with. This allows the dome to respond only to preset positions, eliminating the operator’s ability to manually position the dome. It also allows a unit to be temporarily locked onto a subject for recording or monitoring specific activity. Recalling preset 90 has no effect. The camera dome retains its capability of zoom, focus and iris control while locked.

Preset 93 (Set Response Line Polarity) (Duplex Only) — The SurveyorVFT checks for polarity of the command in lines through the auto baud detect feature. The baud detect cycles through 4800+/4800-/9600+/9600-/19200+/19200-, indicating not only the baud rate it is searching for but also the polarity that the receive lines are set to. When preset 93 is selected, the dome will periodically cycle the polarity of the COMM IN+ and COMM IN- lines. During the cycling, pan the joystick and press either the A/I or A/P key. As soon as one of the respective lights illuminates, press the AUX2 key. This locks in the correct polarity for operation.

Preset 94 (Enter Dome Menu System) — Many SurveyorVFT features are accessed through a series of on-screen menus. These are accessed by storing preset 94. Recalling preset 94 has no effect. For convenience, when performing programming, pressing the L-SPD (lens speed) button will display a black background.

Preset 95 (Auto-Baud Detect Feature) — Auto-baud detect functions after installing defaults, using preset 95, when switching Vicoax to NOVA (VPS) and upon power-up when the dome sees an incorrect baud rate from keypad or control system. It allows the camera dome to detect a new baud rate from the host controller without having to fully reboot the camera dome and lose all stored configuration parameters. Be sure that auto home on power up is disabled before executing this command. Symbols are used to display the status of the detection process. The * symbol indicates that valid data at the correct baud rate has been received, the X symbol represents a framing error has been received and the - symbol indicates that no data has been received. Recalling preset 95 has no effect.

Preset 96 (Program Dome Sectors) — The SurveyorVFT has the ability to divide its 360° field-of-view into sections or sectors. There may be up to 16 sectors and the boundaries for each are programmed for each individual dome. An individual title may be programmed for each sector and video may be enabled or disabled.

Storing preset 96 will begin the sector programming process by establishing the left boundary for sector 1. Pan the camera to the right and press the **AP** (autopan) key to set the right boundary for sector 1, which is also the left boundary of sector 2. Continue panning the camera and pressing **AP** until all 16 boundaries have been programmed. If fewer than 16 sectors are required, press **AP** repeatedly at the right boundary of the last sector you will be programming to use up all the boundary numbers and exit sector-programming mode.

When the camera is moved, the corresponding sector title is displayed on the screen (when sector titles have been enabled). If the video is disabled for a given sector, a black screen with the words “Blank Sector” will appear when the camera enters that sector and video will be restored when the camera moves to a sector where video is enabled. Sector programming can be aborted by issuing a preset recall; this will also erase any prior sector programming. Recalling preset 96 has no effect.

Preset 97 (Initiate Dome Reset) — Storing preset 97 resets all of the system software and performs the power-on self-test. This is called a “soft reset” because no memory settings are affected. All user programmed options such as titles and presets remain unchanged. Recalling preset 97 has no effect.

Preset 98 (Programming Autopan Limits) — When a SurveyorVFT is selected on a keyboard, pressing the **AP** (autopan) key will start the camera in motion, panning at a predetermined speed.

- **To change the speed** — Press and hold the **AP** key while moving the joystick to the desired speed. When the speed is correct, release the **AP** button and then the joystick. Each dome may have its own autopan speed and pressing the autopan key will start the dome panning at the last speed selected for that dome. (When using a Kollector DVR, shut off AP, move the slider to desired speed and press AP again.) In continuous rotation only, the autopan command will cause the dome to reverse direction.
- **To stop autopanning** — Any other pan command will disable autopan. This includes pressing the **AP** key again, panning the camera with the joystick, or recalling a preset.
- **To set the autopan limits** — When a continuous rotation dome is in autopan, it will rotate in a full circle until autopan is disabled. When an application, such as a wall-mounted camera on a building, does not require continuous rotation, limits are set to define the left and right boundaries. Storing preset 98 will bring up a series of prompts to set the left and right autopan limits with the AUX 2 and AUX 3 keys. When the autopan limits are set and the camera is placed into autopan it will pan until it reaches a limit. It will then reverse direction until it reaches the opposite limit, repeating this cycle indefinitely.

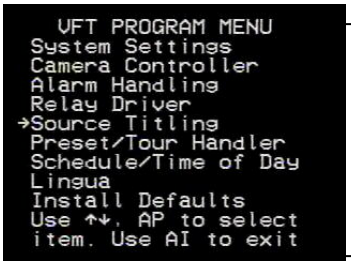
- **To clear the autopan limits —** Store preset 98. Press AUX 2 and AUX 3 without panning to set the autopan limits to the same position. By recording both limits on the same point they will both be deleted. The dome will now rotate continuously when placed in autopan mode until new limits are programmed.

Recalling presets 98 has no effect.

Preset 99 (Set Manual Pan Limits) — Storing preset 99 will bring up a series of prompts to set the left and right manual pan limits with the AUX 2 and AUX 3 keys. After these are set, the physical range between these limits is the valid range. The camera dome will not move outside these limits. Setting pan limits also sets AP limits if the AP limits are outside the of the pan limits. The only exceptions are prerecorded tours and previously stored presets. To clear the pan limits, press AUX 2 and AUX 3 without panning.

Programming Menus

The Main Programming Menu is the first one seen when entering programming mode (store preset 94). Subsequent menus, called sub-menus are accessible from this point. When in programming mode, a function is entered by pressing the **AP** (autopan) key. To back out of that function without changes, press the **AI** (autoiris) key. Instructions are available on the screen for almost all functions. For convenience, press the L-SPD (lens speed) button to display a black background.



The selections available on this menu can be summarized as follows:

System Settings — Allows the user to adjust the speed of the pan and tilt axes. Solving preset positions is always done at full speed. This menu also controls the Zoom Scalable Pan/Tilt, Compass, PTZ TImeout and Flip features.

Camera Controller — Permits user adjustment of the advanced video features available on the SurveyorVFT.

Alarm Handling — Configures the SurveyorVFT's four alarm inputs.

Relay Driver — Adjusts and configures the relay output for control of external devices.

Source Titling — Programs and displays the various titles available to the SurveyorVFT.

Note: *All titles are disabled from the factory and will not be displayed upon initial startup.*

Preset/Tour Handling — Programs preset events into the camera dome. It also allows programming a series of events or actions into a script called a Tour and Autotour and on 23X/35X versions, Motion Detection zone set up.

Scheduler/Time of Day — The Scheduler provides a means of programming events to occur at specific times of the day. The Time of Day feature allows programming of the time display format. It allows selection of daylight saving time, 12/24-hour format and actual setting of the time and date.

Language — Programs language format for titles and menus. Language choices are English, Spanish, French, German and Italian. The word "Language" will continuously change between the five translated words, Language, Idioma, Langue, Sprache and Lingua, to alert an operator that this prompt is related to changing the language. When selected, the menus will immediately display the new language.

Install Defaults — Resets the SurveyorVFT to the factory default settings. All previously programmed titles and settings are lost when this function is accessed, so keep a record of programmed settings. The main default settings are listed in the Install Defaults section. Some default settings are camera dependent; those are not listed.

Note: *On unit power up, when DIP switch SW2 positions 2, 6, 7 and 8 are all set to ON, the unit will perform an Install Defaults.*

Vicon Standard Equipment Warranty

Vicon Industries Inc. (the "Company") warrants your equipment to be free from defects in material and workmanship under Normal Use from the date of original retail purchase for a period of three years, with the following exceptions:

1. VCRs, all models: Labor and video heads warranted for 120 days from date of original retail purchase. All other parts warranted for one year from date of original retail purchase.
2. Video monitor CRT (cathode ray tube) and LCD monitors, all models: One year from date of original retail purchase.
3. Uninterruptible Power Supplies: Two years from date of original retail purchase.
4. VDR-304 and VDR-308 Recorder Series: One year from date of original retail purchase.
5. Normal Use excludes prolonged use of lens and pan-and-tilt motors, gear heads, and gears due to continuous use of "autopan" or "tour" modes of operation. Such continuous operation is outside the scope of this warranty.

Date of retail purchase is the date original end-user takes possession of the equipment, or, at the sole discretion of the Company, the date the equipment first becomes operational by the original end-user.

The sole remedy under this Warranty is that defective equipment be repaired or (at the Company's option) replaced, at Company repair centers, provided the equipment has been authorized for return by the Company, and the return shipment is prepaid in accordance with policy.

The Company will not be obligated to repair or replace equipment showing abuse or damage, or to parts which in the judgment of the Company are not defective, or any equipment which may have been tampered with, altered, misused, or been subject to unauthorized repair.

Software supplied either separately or in hardware is furnished on an "As Is" basis. Vicon does not warrant that such software shall be error (bug) free. Software support via telephone, if provided at no cost, may be discontinued at any time without notice at Vicon's sole discretion. Vicon reserves the right to make changes to its software in any of its products at any time and without notice.

This Warranty is in lieu of all other conditions and warranties express or implied as to the Goods, including any warranty of merchantability or fitness and the remedy specified in this Warranty is in lieu of all other remedies available to the Purchaser.

No one is authorized to assume any liability on behalf of the Company, or impose any obligations on it in connection with the sale of any Goods, other than that which is specified above. In no event will the Company be liable for indirect, special, incidental, consequential, or other damages, whether arising from interrupted equipment operation, loss of data, replacement of equipment or software, costs or repairs undertaken by the Purchaser, or other causes.

This warranty applies to all sales made by the Company or its dealers and shall be governed by the laws of New York State without regard to its conflict of laws principles. This Warranty shall be enforceable against the Company only in the courts located in the State of New York.

The form of this Warranty is effective August 15, 2007.

THE TERMS OF THIS WARRANTY APPLY ONLY TO SALES MADE WHILE THIS WARRANTY IS IN EFFECT. THIS WARRANTY SHALL BE OF NO EFFECT IF AT THE TIME OF SALE A DIFFERENT WARRANTY IS POSTED ON THE COMPANY'S WEBSITE, *WWW.VICON-CCTV.COM*. IN THAT EVENT, THE TERMS OF THE POSTED WARRANTY SHALL APPLY EXCLUSIVELY.

Vicon Part Number: 8006-9010-03-03 Rev 807

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